



# STIC Search Report

## Biotech-Chem Library

STIC Database Tracking Number: 123751

To: Christopher Yaen  
Location: REM/3A20/3C18  
Art Unit: 1642  
Wednesday, June 09, 2004

Case Serial Number: 09/538106

From: Beverly Shears  
Location: Remsen Bldg.  
RM 1A54  
Phone: 571-272-2528

beverly.shears@uspto.gov

### Search Notes

Christopher,

This request was not forwarded to Ed Hart. It was placed in the "general pool" of incoming searches. I processed prior to reading CC: addressee.

Beverly

# SEARCH REQUEST FORM

Requestor's Name: \_\_\_\_\_ Serial Number: \_\_\_\_\_  
Date: \_\_\_\_\_ Phone: \_\_\_\_\_ Art Unit: \_\_\_\_\_

## Search Topic:

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors, keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).

## STAFF USE ONLY

Date completed: 06-09-04  
Searcher: Beverly C 2528  
Terminal time: \_\_\_\_\_  
Elapsed time: \_\_\_\_\_  
CPU time: \_\_\_\_\_  
Total time: \_\_\_\_\_  
Number of Searches: \_\_\_\_\_  
Number of Databases: \_\_\_\_\_

### Search

\_\_\_\_\_ STIC  
\_\_\_\_\_ CM-1  
\_\_\_\_\_ Pre-S

### Type of Search

\_\_\_\_\_ N.A. Sequence  
\_\_\_\_\_ A.A. Sequence  
\_\_\_\_\_ Structure  
\_\_\_\_\_ Bibliographic

### Vendors

☒ IG  
\_\_\_\_\_ STN  
\_\_\_\_\_ Dialog  
\_\_\_\_\_ APS  
\_\_\_\_\_ Geninfo  
\_\_\_\_\_ SDC  
\_\_\_\_\_ DARC/Questel  
\_\_\_\_\_ Other

[illegible]







[illegible]

US-09-538-	178	DVAFQOSTAKSATWTYSELKLYCOI	AKTCPIQIKWMPPOGAVIRAMP
US-09-538-	139	DVAFQOSTAKSATWTYSELKLYCOI	AKTCPIQIKWMPPOGAVIRAMP
US-09-538-	84	DVAFQOSTAKSATWTYSELKLYCOI	AKTCPIQIKWMPPOGAVIRAMP
US-09-538-	84	DVAFQOSTAKSATWTYSELKLYCOI	AKTCPIQIKWMPPOGAVIRAMP
consensus	184	DlekvkkgesvstrisevLdKqnelkdi.sgdihvkkaredfnlsleutvearlte	
US-09-538-	64	ALSPSPALPSNTDYPGPHSFDSFOOSTAKSATWTSTELKLYCOIAKTCPIQIKWMT	
US-09-538-	64	ALSPSPALPSNTDYPGPHSFDSFOOSTAKSATWTSTELKLYCOIAKTCPIQIKWMT	
US-09-538-	119	ALSPSPALPSNTDYPGPHSFDSFOOSTAKSATWTSTELKLYCOIAKTCPIQIKWMT	
US-09-538-	158	ALSPSPALPSNTDYPGPHSFDSFOOSTAKSATWTSTELKLYCOIAKTCPIQIKWMT	
US-09-538-	137	YKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEPIIGROSULVPY	
US-09-538-	137	YKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEPIIGROSULVPY	
US-09-538-	192	YKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEPIIGROSULVPY	
US-09-538-	231	YKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEPIIGROSULVPY	
US-09-538-	231	YKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEPIIGROSULVPY	
US-09-538-	192	YKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEPIIGROSULVPY	
US-09-538-	137	YKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEPIIGROSULVPY	
US-09-538-	137	YKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEPIIGROSULVPY	
US-09-538-	137	YKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEPIIGROSULVPY	
consensus	245	ykkaehvtevwrcpnhlsrepfngqiapshlirvgnshaqvdepiigrosulvp	
US-09-538-	125	POGAVIRAMPYKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEP	
US-09-538-	125	POGAVIRAMPYKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEP	
US-09-538-	180	POGAVIRAMPYKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEP	
US-09-538-	219	POGAVIRAMPYKKAHEVTEVWRCPNHLSREPFNGQIAPSHLIRVGNSHAQVDEP	
US-09-538-	198	POGAVTEFTVLVNFMCNCSGVGAMNRRPILITLETBPGOVLGRCCFARICACGRRR	
US-09-538-	198	POGAVTEFTVLVNFMCNCSGVGAMNRRPILITLETBPGOVLGRCCFARICACGRRR	
US-09-538-	253	POGAVTEFTVLVNFMCNCSGVGAMNRRPILITLETBPGOVLGRCCFARICACGRRR	
US-09-538-	292	POGAVTEFTVLVNFMCNCSGVGAMNRRPILITLETBPGOVLGRCCFARICACGRRR	
US-09-538-	292	POGAVTEFTVLVNFMCNCSGVGAMNRRPILITLETBPGOVLGRCCFARICACGRRR	
US-09-538-	253	POGAVTEFTVLVNFMCNCSGVGAMNRRPILITLETBPGOVLGRCCFARICACGRRR	
US-09-538-	198	POGAVTEFTVLVNFMCNCSGVGAMNRRPILITLETBPGOVLGRCCFARICACGRRR	
US-09-538-	198	POGAVTEFTVLVNFMCNCSGVGAMNRRPILITLETBPGOVLGRCCFARICACGRRR	
consensus	306	dnealtrstlqcmmediytevrrelvslkqdgqafneaadberlalqaltekliiseevsrli	
US-09-538-	186	ITGRQSVLVPYEPPOGTEFTVLVNFMCNCSGVGAMNRRPILITLETBPGOVLGRCCF	





US-09-538- 394  
US-09-538- 449  
US-09-538- 484  
US-09-538- 457  
US-09-538- 457  
US-09-538- 512  
US-09-538- 551  
US-09-538- 658  
US-09-538- 619  
US-09-538- 564  
US-09-538- 564  
caa49535 603

consensus wndfnfmd-rnkqgrl---ge

Alignment score = -6009.00

Scoring matrix:

	22	2	3	4	5	6	7	8	9	10	11	12
22	-185	-404	-739	-80	-673	-1008	-356	-221	-558	-80	-673	
2		-112	-548	293	-452	-888	434	-315	-769	292	-457	
3			76	-314	168	-264	-315	313	-147	-321	171	
4				-646	-44	108	-747	-123	219	-648	-54	
5					-167	-603	97	-148	-462	577	-172	
6						21	-652	-24	-91	-172	456	
7							-1084	-460	-118	-604	20	
8								-73	-529	106	-647	
9									91	-148	-19	
10										-469	-91	
11											-167	
12												
13												

13

22 -1024  
2 -911  
3 -289

4 77  
5 -626  
6 -4  
7 362  
8 -1103  
9 -483  
10 -91  
11 -623  
12 -3  
13

> O <  
O| |0| Intelligenetics  
> O <

FastDB - Fast Pairwise Comparison of Sequences  
Release 5.4

Results file caa49535.res made by bshears on Wed 9 Jun 104 10:10:28-PDT.

Query sequence being compared: caa49535 (1-602)  
Number of sequences searched: 12  
Number of scores above cutoff: 12

Results of the initial comparison of caa49535 (1-602) with:  
File: /home/bshears/new.pep

100-  
N -  
U 50-  
M -  
B -  
E -  
R -  
O 10-  
S -  
E 5-  
Q -  
U -  
N -  
C -  
E -  
S 0-  
SCORE 0 1 2 2 3 4 5 5 6 7  
SIDEV -5 -4 -2 -1 0 1 1 5 6 7

## PARAMETERS

Similarity matrix Unitary 1 K-tuple 2  
Mismatch penalty 1.00 Joining penalty 20  
Gap size penalty 0.05 Window size 32  
Cutoff score 0  
Randomization group 0

## SEARCH STATISTICS

Scores: Mean 5 Median 7 Standard Deviation 0.83  
Times: CPU 00:00:00.00 Total Elapsed 00:00:00.00

Number of residues: 6199  
Number of sequences searched: 12  
Number of scores above cutoff: 12

The scores below are sorted by initial score.  
Significance is calculated based on initial score.

A 100% identical sequence to the query sequence was not found.

The list of best scores is:

Sequence Name	Description	Length	Score	Opt. Score	Sig. Frame
1. US-09-538-106-24	Sequence 24, Application 18	389	7	61	2.40 0
2. US-09-538-106-18	Sequence 18, Application 15	393	7	61	2.40 0
3. US-09-538-106-15	Sequence 15, Application 13	448	7	66	2.40 0
4. US-09-538-106-22	Sequence 22, Application 16	586	6	77	1.20 0
5. US-09-538-106-16	Sequence 16, Application 13	586	6	78	1.20 0
6. US-09-538-106-13	Sequence 13, Application 10	641	6	78	1.20 0
7. US-09-538-106-19	Sequence 19, Application 13	680	6	77	1.20 0
8. US-09-538-106-23	Sequence 23, Application 17	461	5	28	0.00 0
9. US-09-538-106-17	Sequence 17, Application 10	461	5	28	0.00 0
10. US-09-538-106-21	Sequence 21, Application 14	483	5	79	0.00 0
11. US-09-538-106-14	Sequence 14, Application 20	516	5	74	0.00 0
12. US-09-538-106-20	Sequence 20, Application 24	555	5	74	0.00 0

## 1. caa49535 (1-602)

US-09-538-106-24 Sequence 24, Application US/09538106

GENERAL INFORMATION: US/09538106

APPLICANT: MCKEON, FRANK

APPLICANT: YANG, ANNIE

APPLICANT: LODA, MASSIMO

APPLICANT: SIGNORETTI, SABINA

APPLICANT: CRIM, CHRISTOPHER

TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES

TITLE OF INVENTION: RELATED THERETO

FILE REFERENCE: HMV-038.02

CURRENT APPLICATION NUMBER: US/09/538,106

CURRENT FILING DATE: 2000-03-29

PRIOR APPLICATION NUMBER: 09/174,493

PRIOR FILING DATE: 1998-10-15

PRIOR APPLICATION NUMBER: 60/087,216

PRIOR FILING DATE: 1998-05-29

PRIOR APPLICATION NUMBER: 60/062,076

PRIOR FILING DATE: 1997-10-15

NUMBER OF SEQ ID NOS: 53

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 24

LENGTH: 389

TYPE: PRT

ORGANISM: Murine sp.

Initial Score = 7 Optimized Score = 61 Significance = 2.40

Residue Identity = 18% Matches = 80 Mismatches = 281

Gaps = 65 Conservative Substitutions = 0

10 20 30 40 50 60 70

MPKAKRGSKGKGAAPSEKGAHPSGGADVAKKPPAPQPPPPHPPQHPQCHPQNAHKGKGRGG

MLYLENNQOTQFSEQYTNLGLNSMDQ

80 90 100 110 120 130 140

GGGGGKSSSS--SSASAAAAAASSSSSCSRRLGRALNFFLYLALVAALAFSGCVHAEVQVRRSHQ

QIQNGSSSTSPYNTDAQNSVTAPSPYQPS--STPDAL--SPSPALPENTDYPG--PISFDVSPQSSSTAKS

30 40 50 60 70 80 90

DFSRQREHFGGGLGVGVQVSLQATFTG---FSSIRSSQHK--QDTEAAYQGSSEVSRISVYLQKQ

ATWTYSTEL-KLLVQCIATCPICQIKWTPPPQAVIRAMPYKKAHVTEVVKRCPNHEISRENEGQIAP

100 110 120 130 140 150 160

NEIL-----KDLSDGIHVYKDAKARDFTSLNTEVERLTETLTKSLINDIATFTVEKSKSQEIND

210 220 230 240 250 260

```

PHILIRVGNASHADYVEDPITGOSVLYVEEPOVGTET-----TYL-VYFMONSVCVGMNRRLILI-
170      180      190      200      210      220      230

270      280      290      300      310      320      330
MKAKVASIEEENKODJLKALKAIVEIQTSKSEEMEMELRSTLOTMSDIDYTEVEFELVSIKOEQAQFK-
-----VLTLETRDG--OVLGRRCPEARICACPERDKAEDSIRKQCVSDSAKNQDAFRONTGICQTSIKYK-
240      250      260      270      280      290

340      350      360      370      380      390      400
EADTERLAL-----QALTEKLSEESVSRLPEERLRELEELRQKSDSHGPRDEGGRHSEAFELQOKSGS-
RSPDELLIYPRGRRETYEMLLIXKISLMLMYLDPQHTTEYRQOQOOOH-----QHLLQK--
300      310      320      330      340      350

410      420      430      440 X      450      460      470
GLDS---RLQCHVEDGVISMVQASARQTESLILSKSQEHORPLAALQRLGEGISSEADQGLASTVRSIG-
HLLSACFNNELVEPRGEAPQSDVPRFHNPNHVSVP
360      370      380      X

480      490
ETOLVYGVDEVELNRS

```

2. caa49535 (1-602)  
US-09-538-106-18 Sequence 18, Application US/09538106

Sequence 18, Application US/09538106  
GENERAL INFORMATION:

APPLICANT: MCKENZIE, FRANK  
 APPLICANT: YANG, ANNIE  
 APPLICANT: LODA, MASSIMO  
 APPLICANT: SIGNORETTI, SABINA  
 APPLICANT: CRUM, CHRISTOPHER  
 TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES  
 TITLE OF INVENTION: RELATED THERETO  
 FILE REFERENCE: HMV-038.02  
 CURRENT APPLICATION NUMBER: US/09/538,106  
 CURRENT FILING DATE: 2000-03-29  
 PRIOR APPLICATION NUMBER: 09/174,493  
 PRIOR FILING DATE: 1998-10-15  
 PRIOR APPLICATION NUMBER: 60/087,216  
 PRIOR FILING DATE: 1998-05-29  
 PRIOR APPLICATION NUMBER: 60/062,076  
 PRIOR FILING DATE: 1997-10-15  
 NUMBER OF SEQ ID NOS: 53  
 SOFTWARE: PatentIn Ver. 2.1  
 SEQ ID NO 18  
 LENGTH: 393  
 TYPE: PRT  
 ORGANISM: Homo sapiens

Initial Score	=	7	Optimized Score	=	61	Significance	=	2.40
Residue Identity	=	19%	Matches	=	83	Mismatches	=	278
Gaps	=	69	Conservative Substitutions	=	0			

10 20 30 40 50 60 70  
 MPAKQKRSKGHGASPESEKGAHPSCGADVAKKPPAPQCPRRPAPHQHPQCHQONQAHGKHRRGG  
 80 90 100 110 120 130 140  
 GGGGKSSSS--SSASAAAAAASSASCSRRLRALNTFLYALVLAALASGMCVHHVLEEVQVRRSQ  
 150 160 170 180 190 200  
 QIQNGSSSTSPYNTDHAQNSVLAASPYAQPSS-TFDAL--SPSPALPSNTDYG--PHSFQVSGQSSSTAKS  
 210 220 230 240 250 260 270 280 290 300  
 X  
 MLENNAQOTQSEPFQYTNLGLNSMQQ

150 160 170 180 190 200  
DPSRREELGGGLGVCEQKQSLCATNGT---FESILRSQHK--QDILTEAAVXQGESEVRSISEVIQKQ  
ATWVYSEL-KLLYQCAKTCPIQIDIKMTTPPGCAVIRAMPYVKKAEHTEVVKCEPNHEISRENEQIADP

100	110	120	130	140	150	160
210	220	230	240	250	260	
NEIL-----	KDLSGHHVVDAREPFTSL	ENTVEERLT	FKSLINDN	ALFTVEQ	SCKEIND	
PSHLIRVEGNSHAQV	EDPTGOSVL	PEYEPQVETFT	----	TVL	YNMNCSS	CGVGNRRP
170	180	190	200	210	220	230
270	280	290	300	310	320	330
MKAKVASLEESBEGKODL	KALKKA--	VKEIOISAKSR	MDHEALRST	LOTHESP	-ITTEVRE	SLVSKLOBOO
-----	VLTETRDG	-QVLGRCFE	BARC	CACPCGR	DAEDSD	SIRKQVSDST
	240	250	260	270	280	290
340	350	360	370	380	390	400
AFK--EADTERLTAL	----	QALTEKL	LRSESVRL	PEEFIR	LRLEE	RLPKSDSHG
IKRRSPDELL	YVPVGRRTY	MLLKIKES	LEIMQYL	LOHTIET	YRQOOQH	-----
300	310	320	330	340	350	
410	420	430	440	450	460	470
QKOSOLDS---	RLQHV	EDGVL	SNQV	ASAR	TESLE	SLKSOEH
OK--HLSAC	FRNEL	VEPR	RETP	PKOSV	FRPHSK	PNRR
360	370	380	390	X		
480	490					
SLIGETOLVLYGV	VEELKRS					

3. Caa49535 (1-602)

Sequence 15, Application US/09538106

GENERAL INFORMATION:  
 APPLICANT: MCKEON, FRANK  
 APPLICANT: YANG, ANNIE  
 APPLICANT: LODA, MASSIMO  
 APPLICANT: SIGNORETTI, SABINA  
 APPLICANT: CRUM, CHRISTOPHER  
 TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES  
 TITLE OF INVENTION: RELATED THERETO  
 FILE REFERENCE: HMV-038.02  
 CURRENT APPLICATION NUMBER: US/09/538,106  
 CURRENT FILING DATE: 2000-03-29  
 PRIOR APPLICATION NUMBER: 09/174,493  
 PRIOR FILING DATE: 1998-10-15  
 PRIOR APPLICATION NUMBER: 60/087,216  
 PRIOR FILING DATE: 1998-05-29  
 PRIOR APPLICATION NUMBER: 60/062,076  
 PRIOR FILING DATE: 1997-10-15  
 NUMBER OF SEQ ID NOS: 53  
 SOFTWARE: PatentIn Ver. 2.1  
 SEQ ID NO 15

Initial Score	=	7	Optimized Score	=	66	Significance	=	2.40
Residue Identity	=	18%	Matches	=	93	Mismatches	=	296
Gaps	=	101	Conservative Substitutions	=			=	0

50 60 70 80 90 100 110  
 PPAPPOOHPOOHONAHKCKGHRGGGGCGKSSSS--SSASAAAAAASSSSCCRRRLGRALINFLFYLA  
 TNLGLNSMDQO-IGN-----GSSSTSPYNTDAANSVTAPSPYAPQS-STFDAL--SPSPA  
 80 90 100 110 120  
 MSQSTQINEFLSPFVEFHINDFLFQPCISYQPLDINFEVPESEDGATNKIEISMDCIEMQSDSLSDPVMPOY  
 10 X 20 30 40 50 60 70  
 X 10 20 30 40  
 MPAKQ-----RGSKGGHGAASPEKGA---HPSGADIVAKKPEAPPOCPPE  
 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720 730 740 750 760 770 780 790 800 810 820 830 840 850 860 870 880 890 900 910 920 930 940 950 960 970 980 990 1000

120 130 140 150 160 170 180  
 LVAAAFSGVCHVHVEVQVYRSHQDPSRQREBELGQGLQGVQVQSLQATFGT---FESILRSSCHK-  
 IPNTVYPG--PHSPFVSSFOQSSSTAKSATWTWSTEL--KTLVCOIAKTCPIQIKWTPPQGAIVAMPYTK  
 130 140 150 160 170 180 190  
 -QDLTEKAVKQGESEVSRISSEVLQKLNEL-----KDLSDIHYVKARERDPTSLNVTVERL  
 AEHTEVEVKACPNHELSREHNEGQIAPPSHLIIVEGNSHAQVVEDPITRQSLVPEYEPQVGTFT-----  
 200 210 220 230 240 250 260  
 250 260 270 280 290 300 310  
 TELTKSINDIAITFEVQKRSQKEINDMKAKVASLESEGNKQDL-KALKEA--VKEIQTSKSRWMBAL  
 TVL-VYPMGSSCVGGMNRPILII-----VLETRDQ--QVLGRCFEARIACCPGRDKADESTRKO  
 270 280 290 300 310 320  
 320 330 340 350 360 370  
 RSTLQTMESD-IYTEVEELVSLKQEQQAFK-EAADTERLAL---QALTEKILRSESVSRLLPEIRLSE  
 QVSDSKNGDGTFRPROMTHGIMTSIKKRSRDPDELLYLPVGRGTEYEMLLKIKESLELMQVLPQHTIET  
 330 340 350 360 370 380 390  
 380 390 400 410 420 430 440 X  
 LKQLKSDSGPREDGGRHSEAFELAQKSGQGLDS---RLQHYVEDVLSMVAQAPQTESLSLKSQEH  
 YKQOQOQOH-----QHLOK--HLISACFENELVEPREPKQSDVFRSRKPPNSVVP  
 400 410 420 430 440 X  
 450 460 470 480 490  
 QRLAQLGRLEGSGSEADQDGLASTVRSLEGTQVLVYGDVVELKSS

4. caa49535 (1-602)  
 US-09-538-106-22 Sequence 22, Application US/09538106

Sequence 22, Application US/09538106  
 GENERAL INFORMATION:  
 APPLICANT: MCKEON, FRANK  
 APPLICANT: YANG, ANNIE  
 APPLICANT: LODA, MASSIMO  
 APPLICANT: SIGNORETTI, SABINA  
 APPLICANT: CRUM, CHRISTOPHER  
 TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES  
 TITLE OF INVENTION: RELATED THERETO  
 FILE REFERENCE: HMV-038.02  
 CURRENT APPLICATION NUMBER: US/09/538,106  
 CURRENT FILING DATE: 2000-03-29  
 PRIOR APPLICATION NUMBER: 09/174,493  
 PRIOR FILING DATE: 1998-10-15  
 PRIOR APPLICATION NUMBER: 60/087,216  
 PRIOR FILING DATE: 1998-05-29  
 PRIOR APPLICATION NUMBER: 60/062,076  
 PRIOR FILING DATE: 1997-10-15  
 NUMBER OF SEQ ID NOS: 53  
 SOFTWARE: PatentIn Ver. 2.1  
 SEQ ID NO 22  
 LENGTH: 586  
 TYPE: PRT  
 ORGANISM: Murine sp.

Initial Score = 6 Optimized Score = 77 Significance = 1.20  
 Residue Identity = 19% Matches = 111 Mismatches = 343  
 Gaps = 119 Conservative Substitutions = 0

X 10  
 MPS--AKORSGKGHGAAPS  
 GLNSMDQIQNGSSSTSPYNTDHAQNSVTAPSPYAQSPSTDALSPSPALNSNDYGGPHSPFVSSFOQSSST  
 30 40 50 60 70 80 90

20 30 40 50 60 70 80  
 EKGA-----HPSGADDAVAKKPPAPQPPPPAPHPQOHPOQHPOQNA---HGKQGHGCGGGGKSSSS  
 AKSATWTWSTELKTLVCOIAKTCPIQIKWTPP-----QGAIVAMPYTKAEHTEVEVKACPNHEL  
 100 110 120 130 140 150  
 90 100 110 120 130 140  
 SSAGAAAAAASSSSSSSSRRLLGRALVFLYALVAAAFSGVCHVHVEVQV-----RRSH  
 SRENEGQIAPPS-----HLIR--VEGNSHAQVVEDPITRQSLVPEYEPQVGTFTTVLYNPMGSSSC  
 160 170 180 190 200 210  
 150 160 170 180 190 200  
 QDFSRQREBEL-----QGGLOGVQKVOQLATFGTPESTILRSSQHKQDLTEKAVKQGESEVSRISSEVL  
 VGMNRRPILIIITVLETRDQVL--GRACFEARIACAGRRKXADESIRKQGVSDA--KNG-----DGRK  
 220 230 240 250 260 270 280  
 210 220 230 240 250 260  
 QKLNELIKDLSDGI--HVVKARERDPTSLNVTVERLT--ELTK-----SINDIAITFEVQKRSQ  
 PFRON-----THGICQTSIKKRSRDPDELLYLPVGRGTEYEMLLKIKESLELMQVLPQHTIETKQOQOQO  
 290 300 310 320 330 340  
 270 280 290 300 310 320 330  
 KEINDMKAKVASLESEGN--KODIKALKEAVKEIQTSKSRWMBALRSTLQTMESDIYTEVEELVSLKOE  
 HQHLLKQTSWQSSSYGNSPPLNKNNSMKNLPSVQLINPOQRNAL--TPPTM-----PEGMGANIPM  
 350 360 370 380 390 400 410  
 340 350 360 370 380 390 400  
 QQAFKEAADTERL-ALQALTEKILRSESVSRLLPEIRLSEELRQKSDSGHPKEDGGRHSEAFALQOK  
 GTHMPMAGDMNGSLPTQALPPL--SNPSTS-----HCTPPPEYPTDCSIVSFILARIGCSSCUDYF-----T  
 420 430 440 450 460 470  
 410 420 430 440 450 460 470  
 SQGLDSRLQHYVEDVLSM--QVASARQTE-----SLESLSKSGEH-----EORTIALQGLRLEGSGSEADQ  
 TQGLTTIYQ---IEHYSMDLALIKLPEQFRHAIWKGLDHRQLHDFSPPHILRTPPSGASTVSVSSSETRG  
 480 490 500 510 520 530 540  
 470 480 490 500 510 520 530  
 DGLASTR--SLGFTQVLVYGDVVELKRSVSELPSTYESLQKVEQVHTLSSDQQAAPLPPQDFIDRLSL  
 ERVIDAVFTLRQTSFPPRD--EWDNFEDMDSRNKKQQRKKEGE  
 550 560 570 580 X  
 540 550 560  
 DNKASYSQVEADLKLKRTAVDSLV

5. caa49535 (1-602)  
 US-09-538-106-16 Sequence 16, Application US/09538106

Sequence 16, Application US/09538106  
 GENERAL INFORMATION:  
 APPLICANT: MCKEON, FRANK  
 APPLICANT: YANG, ANNIE  
 APPLICANT: LODA, MASSIMO  
 APPLICANT: SIGNORETTI, SABINA  
 APPLICANT: CRUM, CHRISTOPHER  
 TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES  
 TITLE OF INVENTION: RELATED THERETO  
 FILE REFERENCE: HMV-038.02  
 CURRENT APPLICATION NUMBER: US/09/538,106  
 CURRENT FILING DATE: 2000-03-29  
 PRIOR APPLICATION NUMBER: 09/174,493  
 PRIOR FILING DATE: 1998-10-15  
 PRIOR APPLICATION NUMBER: 60/087,216  
 PRIOR FILING DATE: 1998-05-29  
 PRIOR APPLICATION NUMBER: 60/062,076  
 PRIOR FILING DATE: 1997-10-15

NUMBER OF SEQ ID NOS: 53  
SOFTWARE: Patentin Ver. 2.1  
SEQ ID NO 16  
LENGTH: 586  
TYPE: PRT  
ORGANISM: Homo sapiens

Initial Score = 6 Optimized Score = 78 Significance = 1.20  
Residue Identity = 19% Matches = 113 Mismatches = 341  
Gaps = 132 Conservative Substitutions = 0

```

GLNSMDQIQNGSSSTSPYNTDHAQNSVTAPSPYAPQSPSTFDALSPSPALPSTNDYGPSPFVSFQGSST
30      40      50      60      70      80      90
X
MPS---AKQSGSKGSGHGAASPS
100      110      120      130      140      150
EKGQ-----HPSGADVAKKPPAPQPPPPAPHPQHPQHPQQA---HGKGHGGGGGGGKSSSS
160      170      180      190      200      210
AKSATWTYSTEELKLYCQIAKCPQIKMTPTP-----QGAIVRAMPVYKKAHYTEVVKRCPNHEL
100      110      120      130      140      150
SSASAAAAAASSASCSRRLGRALNLFYALVAALAFSGWCVHYLEVOQY-----RRSH
160      170      180      190      200      210
SRENEGQIAPPS-----HLIR--VEGNSHAQYVEDPIGRQSVLYPYPPQVGETTVLVNFMGNSSC
150      160      170      180      190      200      210
QDFSRQREEL-----GGGLQGVQKVSLOATFGTFESILRSSQHKQ---DLTEKAVKQGESEVSRIS
220      230      240      250      260      270
VGMNRRLPILIIIVLETEDGYL--GRCFEARICACPGDRKKADEDSIRKQVSDST---KNG-----DG
210      220      230      240      250      260      270
EVLQKQNLKLDSDGI--HYVKDAREDDFTSLENTVEEELT--ELTK-----SINDNIAIFT--EVOK
280      290      300      310      320      330      340
TKRPPRQN-----THGIQMTSIKRRSPDDELILYLVPRGSETYEMILKIKESLEMOYLPQHTIETVROOQ
270      280      290      300      310      320      330      340
RSQKEINDMKAVASLESSEGN--KODLKALKEAVKEIQTSAKSEWMEALRST--LQTMESDIYTEVEELV
350      360      370      380      390      400
QQQHCHLLQKQTSISPSYSGNSPPLKNKMSMKLPVSQILNPQCRNALTPPTIDGMGANI-----
330      340      350      360      370      380      390      400
SLKQEQAFKEADTERL--ALQALTEKLRLSEESVSRLEIRLEELRLQKSDSHGPKEDGGRHSEAFE
410      420      430      440      450      460      470
--PMWGTHMPMAGDNGLSPQALPPPL--SMPST-----HCTPPPPYPTDCSIVSFLARLGGSSCLDYF-
400      410      420      430      440      450      460      470
ALQOKSQGLSDRLQHVHVEGVLSM--QVASARQTE-----SLESLSKSGEHQRRLAALQGRLEGSGSEADQD
480      490      500      510      520      530      540
---TTQCLTIYQ---IEHYSMDLALSLKIPQGRRAIKWGISLDHRLHE--FSSPSHLRLTPSS-----
470      480      490      500      510      520      530      540
GLASTV--RLSGFTQVLVYGD--VEELKRSVGELPSTVESLQKVQGVHTLLSQDPAQARLPQDFLDRLSSL
550      560      570      580      590      600
--ASTVSGSSETRERVIDAVRFTLRQTSIFPPRDEWNDENFMDARNRKQCRIRKEGE
530      540      550      560      570      580      590      600
540      550      560      570      580      590      600
DNLKASVQVEADLMLMTAVDSLVAYSVKLETENNLL

```

6. caa49535 (1-602)  
US-09-538-106-13 Sequence 13, Application US/09538106  
Sequence 13, Application US/09538106

## GENERAL INFORMATION:

APPLICANT: MCKEON, FRANK  
APPLICANT: YANG, ANNIE  
APPLICANT: LODA, MASSIMO  
APPLICANT: SIGNORETTI, SABINA  
APPLICANT: CROM, CHRISTOPHER  
TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES  
FILE REFERENCE: HMV-038.02  
CURRENT APPLICATION NUMBER: US/09/538,106  
CURRENT FILING DATE: 2000-03-29  
PRIOR APPLICATION NUMBER: 09/174,493  
PRIOR FILING DATE: 1998-10-15  
PRIOR APPLICATION NUMBER: 60/087,216  
PRIOR FILING DATE: 1998-05-29  
PRIOR APPLICATION NUMBER: 60/062,076  
PRIOR FILING DATE: 1997-10-15  
NUMBER OF SEQ ID NOS: 53  
SOFTWARE: Patentin Ver. 2.1  
SEQ ID NO 13  
LENGTH: 641  
TYPE: PRT  
ORGANISM: Homo sapiens

Initial Score = 6 Optimized Score = 78 Significance = 1.20  
Residue Identity = 19% Matches = 113 Mismatches = 341  
Gaps = 132 Conservative Substitutions = 0

```

GLNSMDQIQNGSSSTSPYNTDHAQNSVTAPSPYAPQSPSTFDALSPSPALPSTNDYGPSPFVSFQGSST
80      90      100      110      120      130      140
X
MPS---AKQSGSKGSGHGAASPS
150      160      170      180      190      200      210
EKGQ-----HPSGADVAKKPPAPQPPPPAPHPQHPQHPQQA---HGKGHGGGGGGGKSSSS
220      230      240      250      260      270
AKSATWTYSTEELKLYCQIAKCPQIKMTPTP-----QGAIVRAMPVYKKAHYTEVVKRCPNHEL
280      290      300      310      320      330      340
SSASAAAAAASSASCSRRLGRALNLFYALVAALAFSGWCVHYLEVOQY-----RRSH
350      360      370      380      390      400
SRENEGQIAPPS-----HLIR--VEGNSHAQYVEDPIGRQSVLYPYPPQVGETTVLVNFMGNSSC
320      330      340      350      360      370      380      390      400
QDFSRQREEL-----GGGLQGVQKVSLOATFGTFESILRSSQHKQ---DLTEKAVKQGESEVSRIS
410      420      430      440      450      460      470
VGMNRRLPILIIIVLETEDGYL--GRCFEARICACPGDRKKADEDSIRKQVSDST---KNG-----DG
480      490      500      510      520      530      540
EVLQKQNLKLDSDGI--HYVKDAREDDFTSLENTVEEELT--ELTK-----SINDNIAIFT--EVOK
550      560      570      580      590      600
TKRPPRQN-----THGIQMTSIKRRSPDDELILYLVPRGSETYEMILKIKESLEMOYLPQHTIETVROOQ
520      530      540      550      560      570      580      590      600
RSQKEINDMKAVASLESSEGN--KODLKALKEAVKEIQTSAKSEWMEALRST--LQTMESDIYTEVEELV
610      620      630      640      650      660      670
QQQHCHLLQKQTSISPSYSGNSPPLKNKMSMKLPVSQILNPQCRNALTPPTIDGMGANI-----
680      690      700      710      720      730      740
GLASTV--RLSGFTQVLVYGD--VEELKRSVGELPSTVESLQKVQGVHTLLSQDPAQARLPQDFLDRLSSL
750      760      770      780      790      800
--ASTVSGSSETRERVIDAVRFTLRQTSIFPPRDEWNDENFMDARNRKQCRIRKEGE
730      740      750      760      770      780      790      800
730      740      750      760      770      780      790      800
ALQOKSQGLSDRLQHVHVEGVLSM--QVASARQTE-----SLESLSKSGEHQRRLAALQGRLEGSGSEADQD
810      820      830      840      850      860      870      880      890      900

```









```
80      90      100      110      120
SSSS--SSASAAAAAASSASGSRRLGRALNLFYIALVAAAAPSGMCHVLEVOYVRSHODPSROR
SSTSPYNTDHPQNSVYAPSPYAQPS-STFDAL--SPSPALPSNTDYPG--PHSPDVSFQOSTAKSATWTYS
130     140     150     160     170     180     190
FEIIGGLOGVEQKVSQATFTGT---FESILRSSQH--QDLTEKAVKQGESEVSRISEVLOKQNEIL--
TEL-KKLVCQIAKTPPIQIKVTPPPQCAVIRANPVPYKKAHVTEVVKRCPNHELSPENEGQIAPPSHLIR
200     210     220     230     240     250     260
-----KLSGDGIHVVDARE-----RDFI-SLEN-----TVERLTETKSIDNIIAIFTEVOKRS
VEGNSHAQYVEDPTIGROSVALVPYPPVOVGTEFTTVLYNFMGNSSCVGGMRRPILIIITLETGQVLR
270     280     290     300     310     320     330
QKEINDMAKAVASLESEGNKQDLKALKEAVKEIQTSAKSRBMDEALRSTLQTMESDIYTEVAELVSLKQE
CEE-----ARTACPG--RDRKA--DEDSIRKQOVSDSAKNGDGTKEPFRQ-----NTHGIQMTSIK--
340     350     360     370     380     390     400
QOAFKEAADTERLAL---QALTEKLRSSESVSRLPEEIRLREELRLQKSDSHGPKEDGFRHSEAFBAL
---KRSPDDELIVPVAGRETYEMLTKIKESLEIMQYLPQHTIETVROQOQOQH-----QHLLQKOTSMQ
410     420     430     440     450     460
QOKSQGLDSRLQHVEDGVLSMQVAVARQTESLESJLSKSOHEQELA-----ALQGRLEGLGSSEADQ
SQSSYGNSSPPLNKKNKSNMKLPSVSQLINPQOBNAIPTPTMBEGMGANI PMWGTHMPVAGDMNGLSPTQALP
470     480     490     500     510     520
DGLASTVSLGFTQLVLYGDVVELKRSVGEIPLSTVESLQKVEQVHTLLSODQQAARLPPQDFLDRLSSLD
PPL--SMPSTSHCTPPPY-----PTDCSIVRIMQV
530     540     550
NKKASVSQVEADLKMRLT
```

> O <  
0110 IntelliGenetics  
> O <

FastDB - Fast Pairwise Comparison of Sequences  
Release 5.4

Results file s33377.res made by bshears on Wed 9 Jun 104 10:09:36-PDT.

Query sequence being compared: s33377 (1-601)  
Number of sequences searched: 12  
Number of scores above cutoff: 12

Results of the initial comparison of s33377 (1-601) with:  
File: /home/bshears/new.pep

100-  
N -  
U 50-  
M -  
B -  
E -  
R -  
O 10-  
F -  
S -  
E 5-  
Q -  
U -  
N -  
C -  
E -  
S -  
SCORE 0 1 2 2 3 4 5 5 6 7  
SIDEV -7 -6 -4 -3 -1 0 0 0 0 0

## PARAMETERS

Similarity matrix Unitary 1 K-tuple 2  
Mismatch penalty 1.00 Joining penalty 20  
Gap penalty 0.05 Window size 32  
Gap size penalty 0  
Cutoff score 0  
Randomization group 0

## SEARCH STATISTICS

Scores: Mean 6 Median 7 Standard Deviation 0.72  
Times: CPU 00:00:00.00 Total Elapsed 00:00:00.00

Number of residues: 6199  
Number of sequences searched: 12  
Number of scores above cutoff: 12

The scores below are sorted by initial score.  
Significance is calculated based on initial score.

A 100% identical sequence to the query sequence was not found.

The list of best scores is:

Sequence Name	Description	Length	Score	Int. Opt. Score	Sig. Frame
1. US-09-538-106-24	Sequence 24, Application 18	389	7	61	1.29 0
2. US-09-538-106-18	Sequence 18, Application 18	393	7	61	1.39 0
3. US-09-538-106-15	Sequence 15, Application 15	448	7	66	1.39 0
4. US-09-538-106-21	Sequence 21, Application 21	483	7	66	1.39 0
5. US-09-538-106-23	Sequence 23, Application 23	461	6	58	0.00 0
6. US-09-538-106-17	Sequence 17, Application 17	461	6	58	0.00 0
7. US-09-538-106-22	Sequence 22, Application 22	586	6	79	0.00 0
8. US-09-538-106-16	Sequence 16, Application 16	586	6	78	0.00 0
9. US-09-538-106-13	Sequence 13, Application 13	641	6	78	0.00 0
10. US-09-538-106-19	Sequence 19, Application 19	680	6	79	0.00 0
11. US-09-538-106-14	Sequence 14, Application 14	516	5	75	-1.39 0
12. US-09-538-106-20	Sequence 20, Application 20	555	5	76	-1.39 0

## 1. s33377 (1-601)

US-09-538-106-24 Sequence 24, Application US/09538106

GENERAL INFORMATION:  
Sequence 24, Application US/09538106

APPLICANT: MCKEON, FRANK

APPLICANT: YANG, ANNIE

APPLICANT: LODA, MASSIMO

APPLICANT: SIGNORETTI, SABINA

APPLICANT: CRUM, CHRISTOPHER

TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES

TITLE OF INVENTION: RELATED THERETO

FILE REFERENCE: HWY-038.02

CURRENT APPLICATION NUMBER: US/09/538.106

CURRENT FILING DATE: 2000-03-29

PRIOR APPLICATION NUMBER: 09/174,493

PRIOR FILING DATE: 1998-10-15

PRIOR APPLICATION NUMBER: 60/087,216

PRIOR FILING DATE: 1998-05-29

PRIOR APPLICATION NUMBER: 60/062,076

PRIOR FILING DATE: 1997-10-15

NUMBER OF SEQ ID NOS: 53

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 24

LENGTH: 389

TYPE: PRT

ORGANISM: Murine sp.

Initial Score = 7

Residue Identity = 18% Matches = 61

Gaps = 65 Conservative Substitutions = 281

Optimized Score = 61

Significance = 1.39

Mismatches = 281

Conservative Substitutions = 0

Initial Score = 7

Residue Identity = 18% Matches = 61

Gaps = 65 Conservative Substitutions = 281

Optimized Score = 61

Significance = 1.39

Mismatches = 281

Conservative Substitutions = 0

Initial Score = 7

Residue Identity = 18% Matches = 61

Gaps = 65 Conservative Substitutions = 281

Optimized Score = 61

Significance = 1.39

Mismatches = 281

Int. Opt. Score

Sig. Frame

1.29 0

1.39 0

1.39 0

1.39 0

0.00 0

0.00 0

0.00 0

0.00 0

0.00 0

0.00 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

-1.39 0

```
PSHLIRVEGNSHAQVDEDTGRQSVLYVEPPVGTFT-----TVL--YNFMCNMSCVGGKNNRPII--
170      180      190      200      210      220      230
270      280      290      300      310      320      330
MKAKVASLESEBENKODL-KALKEA--VKEIOTSASRMEWDEALRSTLQTMESDIYTEVRELVSLOEQAF-
-----VTLERDQ--QVLRRCFEARICACPGDRKADEDSIRKQVSDSTNGDTPFRQNTHG1QMTS
240      250      260      270      280      290
340      350      360      370      380      390      400
EAADTERLAL-----QALTEKILRSESVSRLEBEIRRLRLEELRQLKSDSHGPKEDGGRHSEAFBALQKQ
RSPDDELALYLPVGRRETYEMLKIKESLELMQYLPQHTLETYRQOQOQH-----QHLLQK--
300      310      320      330      340      350
410      420      430      440 X      450      460      470
GLDS---RLOHYEDGVLSMQVASARQTSLSLSKQEHQRLAPALAGLSSEADQDGLASTYRSLGE
HLLSACFRNELVEPRRGPAPTSQDVFPFRHSPNHSVVP
360      370      380      X
480      490
TQLVLYGVDEELKRSV
```

## 2. s33377 (1-601)

US-09-538-106-18 Sequence 18, Application US/09538106

Sequence 18, Application US/09538106

GENERAL INFORMATION:

APPLICANT: MCKEON, FRANK

APPLICANT: YANG, ANNIE

APPLICANT: LODA, MASSIMO

APPLICANT: SIGNORETTI, SABINA

APPLICANT: CRUM, CHRISTOPHER

TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES

FILE REFERENCE: HMV-038.02

CURRENT APPLICATION NUMBER: US/09/538,106

CURRENT FILING DATE: 2000-03-29

PRIOR APPLICATION NUMBER: 09/174,493

PRIOR FILING DATE: 1998-10-15

PRIOR APPLICATION NUMBER: 60/087,216

PRIOR FILING DATE: 1998-05-29

PRIOR APPLICATION NUMBER: 60/062,076

PRIOR FILING DATE: 1997-10-15

NUMBER OF SEQ ID NOS: 53

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 18

LENGTH: 393

TYPE: PRT

ORGANISM: Homo sapiens

```
Initial Score = 7 Optimized Score = 61 Significance = 1.39
Residue Identity = 19% Matches = 83 Mismatches = 278
Gaps = 69 Conservative Substitutions = 0
```

```
10      20      30      40      50      60      70
MPSAKORSGKHGAASEKGAHPSGADVDVAKKPPAPQPPHQQPQQHPPQQAHHGKGAHGG
MPLYENNAQTFQSEFPQYTNLGLNLSMDQ
X
80      90      100      110      120      130      140
GGGGGKSSSS--SSASAAAAAASSSSSSCSRRLGRALNLFYLLALVAAAFAFGWCVHHVLEVOQVRRSHQ
QIQNSSSTSPYNTDHAQNSVTAPSPYAQPS-STPDAL--SPSPALPSNDYDPS--PHSPDVASFQSSSTAKS
30      40      50      60      70      80      90
150      160      170      180      190      200
DFSRQREELQGLQGVGEQVSLQTFGT-----FESILRSSQK--QDLTFKAVKQSESEVSRISVLOKLC
ATWYVSTL-KKLVQGLAKTQPIQIKWTTPPGAGVIRAMPVYKKAHVTLEVVARCPNHLSSEFNGQLAP
```

```
210      220      230      240      250      260
NEIL-----KDISDGHVYKARERDFTSLENTVEERLTELTKSINDIAIFTVQKSSQREIND
PSHLIRVEGNSHAQVDEDTGRQSVLYVEPPVGTFT-----TVL--YNFMCNMSCVGGKNNRPII--
170      180      190      200      210      220      230
270      280      290      300      310      320      330
MKAKVASLESEBENKODL-KALKEA--VKEIOTSASRMEWDEALRSTLQTMESDIYTEVRELVSLOEQAF-
-----VTLERDQ--QVLRRCFEARICACPGDRKADEDSIRKQVSDSTNGDTPFRQNTHG1QMTS
240      250      260      270      280      290
340      350      360      370      380      390      400
AFK-EAADTERLAL-----QALTEKILRSESVSRLEBEIRRLRLEELRQLKSDSHGPKEDGGRHSEAFBALQ
IKRRSPDDELALYLPVGRRETYEMLKIKESLELMQYLPQHTLETYRQOQOQH-----QHLL
300      310      320      330      340      350
410      420      430      440 X      450      460      470
OKSGGLDS---RLOHYEDGVLSMQVASARQTSLSLSKQEHQRLAPALAGLSSEADQDGLASTYR
QK--HLLSACFRNELVEPRRGPAPTSQDVFPFRHSPNHSVVP
360      370      380      390      X
480      490
SLGETQLVLYGVDEELKRSV
```

## 3. s33377 (1-601)

US-09-538-106-15 Sequence 15, Application US/09538106

Sequence 15, Application US/09538106

GENERAL INFORMATION:

APPLICANT: MCKEON, FRANK

APPLICANT: YANG, ANNIE

APPLICANT: LODA, MASSIMO

APPLICANT: SIGNORETTI, SABINA

APPLICANT: CRUM, CHRISTOPHER

TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES

FILE REFERENCE: HMV-038.02

CURRENT APPLICATION NUMBER: US/09/538,106

CURRENT FILING DATE: 2000-03-29

PRIOR APPLICATION NUMBER: 09/174,493

PRIOR FILING DATE: 1998-10-15

PRIOR APPLICATION NUMBER: 60/087,216

PRIOR FILING DATE: 1998-05-29

PRIOR APPLICATION NUMBER: 60/062,076

PRIOR FILING DATE: 1997-10-15

NUMBER OF SEQ ID NOS: 53

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 15

LENGTH: 448

TYPE: PRT

ORGANISM: Homo sapiens

```
Initial Score = 7 Optimized Score = 66 Significance = 1.39
Residue Identity = 18% Matches = 93 Mismatches = 296
Gaps = 101 Conservative Substitutions = 0
```

```
10      20      30      40      50      60      70
MPSAKQ-----RSGSGKHGAASEKGA-----HPSGADVDVAKKPPAPQPP
MSTOTNTEFLSPFQHWLDEQPTSDIDNLFVDESESDGATYKITSIMDCIRMODSDLSDPWMPQY
10 X      20      30      40      50      60      70
50      60      70      80      90      100      110
PPAPHQQHPPQHPQQAHHGKGAHGGGGGKSSSS--SSASAAAAAASSSSSSCSRRLGRALNLFYLLA
TILGLNLSMDQ-IGN-----GSSSTSPYNTDHAQNSVTAPSPYAQPS-STPDAL--SPSPA
80      90      100      110      120
```

120 130 140 150 160 170 180  
 LVAALASGNCVHVLVEEVOQVRSHODFSRORBEELGQGLQGVKQVSLQATFGT----FESILRSSQHK-  
 IPSNTIDYG--PHSFDVSPFOOSJAKSATWTYSTEL-KLYCQIAKTCF-QIKVMTPPPGGAVIRAMPYKK  
 130 140 150 160 170 180 190

190 200 210 220 230 240  
 -QDUTEKAVKQGESSEVSRISEVLOKQNEITL-----KDSLDGIHVVKDAREDFTSLENTVEERL  
 AEHVTEVKRCPNHELSREFNEGQIAPPSHLIIVEGNSHAQVEDPITGQSGLVPEPPOVGTFT-----  
 200 210 220 230 240 250 260

250 260 270 280 290 300 310  
 TELTKSINDNIAITFEVQKSKQKEINDMKAKVASLSESGNKODL-KALKEA--YKEIQTSASRWDMEAL  
 TVL-YNFMGSSCVGGMRRPILII-----VLETRDG--QVLGRCFEARIACAFGRDRKADDSIRKQ  
 270 280 290 300 310 320

320 330 340 350 360 370  
 RSTLQTMESP-ITTEVRELVSLOQEOAFK-EAADTERLAL-----QALTEKLIRSESVSRLEPSTRLEEE  
 QVSDSTNGGTRPFQONTHGIIQMTSIRKRSPPDELLYLPVGRRETYEMLKIKESLELMQYLPQHTIET  
 330 340 350 360 370 380 390

380 390 400 410 420 430 440 X  
 LRQLKSDSHGPKEDGGRHSEAFELQOKSGGDS---RLQHVEDGLSMQVASARQTESLSLSKSGEHE  
 YRQOQOQH-----QHLQK--HLISACFNEELVEPRETPKOSDVFFRHSKPPNSVYP  
 400 410 420 430 440 X

450 460 470 480 490  
 ORLAPAGALEGLGSSSEADODGLASTVRSIGTQLVLYGDEVELKRSV

4. 833377 (1-601)  
 US-09-538-106-21 Sequence 21, Application US/09538106

Sequence 21, Application US/09538106

GENERAL INFORMATION:

APPLICANT: MCKEON, FRANK

APPLICANT: YANG, ANNIE

APPLICANT: LODA, MASSIMO

APPLICANT: SIGNORETTI, SABINA

APPLICANT: CRUM, CHRISTOPHER

TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES

FILE REFERENCE: HMV-038.02

CURRENT APPLICATION NUMBER: US/09/538.106

PRIOR FILING DATE: 2000-03-29

PRIOR APPLICATION NUMBER: 09/174,493

PRIOR FILING DATE: 1998-10-15

PRIOR APPLICATION NUMBER: 60/087,216

PRIOR FILING DATE: 1998-05-29

PRIOR APPLICATION NUMBER: 60/062,076

NUMBER OF SEQ ID NOS: 53

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 21

LENGTH: 483

TYPE: PRT

ORGANISM: Murine sp.

Initial Score = 7 Optimized Score = 66 Significance = 1.39  
 Residue Identity = 18 Matches = 90 Mismatches = 299  
 Gaps = 97 Conservative Substitutions = 0

XX  
 X  
 MPSAQ-----RGSK  
 MNFETRCATLQYCPDYQRIETLPAPHSWKESYYRSAMQSOTSETLSEVQHIMPLEQPICVCPPI  
 10 20 30 40 50 60 70

20 30 40 50 60 70  
 GGHGAASPEKGA-----HPSGADDVAKKPPAPQPPPPAPQPPQOHPOQOHQAHKGKGGGGGK  
 ELNFDPESENCAITKIEISMDICRMDSDLSDBMPQYNTLGLNMDQ-IGN-----GS  
 80 90 100 110 120 130 140

80 90 100 110 120 130 140  
 SSSS--SGSASAAAAAASASASCRRIGRALNFLFYALVAAAFSGWCVHVLVEEVOQVRSHODFSROR  
 SSTSPYNTDHAONSVTAPSPYAPQS-STFDAL--SPSPALPSNTIDYG--PHSFDVSPFOOSJAKSATWTYS  
 130 140 150 160 170 180 190

150 160 170 180 190 200 210  
 EELGGGLQGVKQVSLQATFGT----FESILRSSQHK--QDUTEKAVKQGESSEVSRISEVLOKQNEITL--  
 TEL-KKYCQIAKTCFQIKVMTPPPGGAVIRAMPYKKAEHVTEVKRCPNHELSREFNEGQIAPPSHLIR  
 200 210 220 230 240 250 260

-----KDSLDGIHVVKDAREDFTSLENTVEERLTELTKSINDNIAITFEVQKSKQKEINDMKAKVA  
 VEGNSHAQVEDPITGQSGLVPEPPOVGTFT-----TVL-YNFMGSSCVGGMRRPILII-----V  
 270 280 290 300 310 320

280 290 300 310 320 330 340  
 SLESSEGNKODLKALKEAYKEIOTSASRWDMEALSTLQTMESDIYTEVRELVSLOQEOAFK-EAADTE  
 TLETRDG--QVLGRCFEARIACAFGRDRKADDSIRKQVSDSANGDAFRONTHGIIQMTSIRKRSPPDE  
 330 340 350 360 370 380 390

350 360 370 380 390 400 410  
 RLAL-----QALTEKLIRSESVSRLEPSTRLEELRLQKSDSHGPKEDGGRHSEAFELQOKSGGDS--  
 LLYLPVGRRETYEMLKIKESLEIMQYLPQHTIETYRQOQOQH-----QHLQK--HLISAC  
 400 410 420 430 440 450

420 430 440 X 450 460 470 480  
 -RLQHVEDGLSMQVASARQTESLSLSKSGEHEORLARAGALEGLGSSSEADODGLASTVRSIGTQLVLY  
 FRNELVEPRGEAPQSDVFFRHSKPPNSVYP  
 460 470 480 X

490  
 GDVELEKRSV

5. 833377 (1-601)  
 US-09-538-106-23 Sequence 23, Application US/09538106

Sequence 23, Application US/09538106

GENERAL INFORMATION:

APPLICANT: MCKEON, FRANK

APPLICANT: YANG, ANNIE

APPLICANT: LODA, MASSIMO

APPLICANT: SIGNORETTI, SABINA

APPLICANT: CRUM, CHRISTOPHER

TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES

FILE REFERENCE: HMV-038.02

CURRENT APPLICATION NUMBER: US/09/538.106

PRIOR FILING DATE: 2000-03-29

PRIOR APPLICATION NUMBER: 09/174,493

PRIOR FILING DATE: 1998-10-15

PRIOR APPLICATION NUMBER: 60/087,216

PRIOR FILING DATE: 1998-05-29

PRIOR APPLICATION NUMBER: 60/062,076

NUMBER OF SEQ ID NOS: 53

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 23

LENGTH: 461

TYPE: PRT

ORGANISM: Murine sp.

Initial Score	=	6	Optimized Score	=	58	Significance	=	0.00
Residue Identity	=	18%	Matches	=	81	Mismatches	=	261
Gaps	=	89	Conservative Substitutions	=	0			

GLNSMPDQIQNSSSTSPYNTDHAQNSVYAPFPAPSPSTFDALSSPAIPNTYPPPHSFDVSFOOSS  
 30 40 50 60 70 80 90

20  
EKGA-----HSGAGADIVAKRRPRAPDPPRRPRLRPOOHQNRONQA--HGKGRGRRGGGGGGRSSSSS  
          |||      |||      |||      |||  
100 AKSATVSTELKKYLCQIAKTCFIIQIKMTRP-----OGATIRAMPYYKAENHTVEVRSRNHHE  
                        |||      |||      |||      |||

SSASASAAAAASSASACSRRLLGALNLFYLLALVAALAAFGSGCHHVLVEVQV-----RRSHH 140  
 90 100 110 120 130 140  
 SRENEGAIAPPS-----HLIR-VEGNSHQYVEDPIFGQSILVPIEPQVYETETLYLNPMSNSG 160  
 160 170 180 190 200 210

QDFSRQREEL-----GGGLQGVVEKQVSLQATGTGFESILRSQHQKDLTEKAVNGSESVRSISVTL  
 150 160 170 180 190 200  
 VGGMMNRPLIIIVLTLETRDGYL-GRRCFEARICACCGRRKADESDIRKQVSDSA-KNG-----DGTAKR  
 220 230 240 250 260 270 280

OKTONEILKOLDSOI--HVVKADARERPTSLNTEVEERLP--ELTK-----SINDINIAFT--EVQKRSO  
210 220 230 240 250 260  
PERSON-----THSIQMTSIKRSRSPDELLYLPVGRLEYENLIKESLEIMQYLPQHTETRYRQQQQQQQ  
290 300 310 320 330 340

KEINDRKAVASLESEGN-KODLKALEAVKEIQTAKSREWMDEALSTLTQTMESDIYTEFRELVSKOE  
 350  
 360  
 370  
 380  
 390  
 400  
 410  
 HQHLLQKOTSMOSQSSVYGSSPEPLKMKNSAKLPSVQLINPQQRNLL--TPPTM-----DEGNGANIPMM

QQAFFKADLT<sup>ERL</sup>-ALQATLTKLSEESV<sup>RR</sup>LPEEL<sup>RI</sup>BEEL<sup>RI</sup>QKLS<sup>DS</sup>HPKEDG<sup>GF</sup>RRSEA<sup>FE</sup>ALQOK  
 420  
 430  
 440  
 450  
 460

6. 833377 (1-601)  
US-09-538-10c-17 Sequence 17, Application US/09538100c

Sequence 17, Application US/09538106  
GENERAL INFORMATION:  
APPLICANT: MCKEON, FRANK  
APPLICANT: YANG, ANNIE  
APPLICANT: LODA, MASSIMO  
APPLICANT: SIGNORETTI, SABINA  
APPLICANT: CRUM, CHRISTOPHER  
TITLE OF INVENTION: CELL REGULATORY GENES,  
TITLE OF INVENTION: RELATED THEREFO  
FILE REFERENCE: HMV-018-02  
CURRENT APPLICATION NUMBER: US/09/338,106  
PRIORITY FILING DATE: 2000-03-29  
PRIORITY APPLICATION NUMBER: 09/174,493  
PRIORITY FILING DATE: 1998-10-15  
PRIORITY APPLICATION NUMBER: 60/087,216  
PRIORITY FILING DATE: 1998-05-29  
PRIORITY APPLICATION NUMBER: 60/062,076  
PRIORITY FILING DATE: 1997-10-15  
NUMBER OF SEQ ID NOS: 53

```
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 17
LENGTH: 461
TYPE: PRT
ORGANISM: Homo sapiens
```

Initial Score	=	6	Optimized Score	=	58	Significance	=	0.00
Residue Identity	=	18%	Matches	=	92	Mismatches	=	255
Gaps	=	99	Conservative Substitutions	=			=	0

GLNSMDQIQNGSSSTPTNTDAQNSVTAPSPFAQPSSTFDALSPSPALTSNDIDYPCGFPHFDVSFOQSSST  
 30 40 50 60 70 80 90  
 X 10  
 MPS---AKORGSGKHGAASP  
 |||  
 |||

20  
 EKGA-----HGSGADIVAKPPPPAQQPPPPAHPPQHPPQHQNDA--HGCGHRRGGGGGKSSSS  
 30  
 40  
 50  
 60  
 70  
 80  
 90  
 100  
 110  
 120  
 130  
 140  
 150  
 ASATWTYSTELKCYQCIATCTCIQIKNTPPP-----GQAVITAMPYVKKAEIVTEVYRCPNHHEI

SSSASAAAAAAAASSASCSSLGALFLFLLALVAAAGSGNVHVFEEVQGV-----RSRSL  
     90      100      110      120      130      140  
 SEEPNEGQIAPPS-----HLIR--VEGNSHQAYEDPIGTGOSLTVPEYEPQVGTETTLVNFPMNSSC  
     160      170      180      190      200      210

220 ODSKRELE-----GGGLOGGVGKQVSLQATGTFTSTLNRSSQKQ---DLTEKAVNGSESVRSLS  
 230 VGGMRRLPILIVLTETRDGVLT-GRRCFEARLCACGGRDKADEDSIRKQVSSST---KNG-----DG  
 240 250 260 270

```

EVLQQLQELIKLSGCI--HYVKQAREDDPFSLENYEELT--ELTK-----SINDINIAFT--EVQK
280-----THIQMTSTIKERSPDDELYLPVGRGETYEMLKIKESLEMQVLPQHTETVQQQ
290          290          300          310          320          330          340

```

RSGKEINDMKAKYASLEESGN-KQDLKALKEAVKEIQTSKXSEMEWELNRST--LQTMEDITYEVREL  
 QQQHRLIKQTSIQSGSSIGSSPPPLKMSANKLSVSQILNPPQQRNALTTTTPDGMGANI-----  
 350 360 370 380 390 400

SIKCEQOAFKXADTTEL-ALONTKILRSESVSRPEEIRLEEELIQLKSDHGKPEDGDFRSHSAF  
 --PMGTHMPAGMNGLSPTOLAPPLSPMSTSGCTFPFYPDCSLIVYIKV  
 410      420      430      440      450      460

AL00KRSQGLD5RLQHVHEDVL5MCVARSARQTE  
7. 633377 (1-601)  
US-09-538-106-22 Sequence 22, Application US/05538106

Sequence 22, Application US/09538106  
GENERAL INFORMATION:  
APPLICANT: MCKEON, FRANK  
APPLICANT: YANG, ANNIE  
APPLICANT: LODA, MASSIMO  
APPLICANT: SIGNORETTI, SABINA  
APPLICANT: CRUM, CHRISTOPHER  
TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES  
TITLE OF INVENTION: RETL THERETO  
FILE REFERENCE: HMV-038.02  
CURRENT APPLICATION NUMBER: US/09/538.106  
CURRENT FILING DATE: 2000-03-28  
PRIOR APPLICATION NUMBER: 09/174,493  
PRIOR FILING DATE: 1998-10-15



```

410      420      430      440      450      460
ALQOKSGDLSRLQHVDDVLSM-QVASARQTE-----SLESLSKSQHEORLAPAGALBESSEADQDG
|||||
-----TTQGLTTIYQ---IEHYSMDDLASLKIPQFRHAIWKGLDHRQJLH-FSSPSHLRTSPS-----
480      490      500      510      520      530
LASTV-RSLGETQVLVYGD-VEELKRSVGLPSTVSELOKQVOYHTLLSDQAOAARLPQDFLRLSLSD
|||||
-ASTVSGSSEETGERVIDAVRFTLQOTISFPRDPMDFNFDMDARRKQQRIRIEGE
530      540      550      560      570      580      590      600
540      550      560      570      580      590      600
NKAASVQVEADLKMLRTAVDSLVAYSVKIETNENNL

```

## 9. s33377 (1-601)

US-09-538-106-13 Sequence 13, Application US/09538106

```

Sequence 13, Application US/09538106
GENERAL INFORMATION:
APPLICANT: MCKEON, FRANK
APPLICANT: YANG, ANNIE
APPLICANT: LODA, MASSIMO
APPLICANT: SIGNORETTI, SABINA
APPLICANT: CRUM, CHRISTOPHER
TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES
FILE REFERENCE: HMV-038.02
CURRENT APPLICATION NUMBER: US/09/538.106
CURRENT FILING DATE: 2000-03-29
PRIOR APPLICATION NUMBER: 09/174.493
PRIOR FILING DATE: 1998-10-15
PRIOR APPLICATION NUMBER: 60/087.216
PRIOR FILING DATE: 1998-05-29
PRIOR APPLICATION NUMBER: 60/062.076
PRIOR FILING DATE: 1997-10-15
NUMBER OF SEQ ID NOS: 53
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 13
LENGTH: 641
TYPE: PRT
ORGANISM: Homo sapiens

```

```

Initial Score = 6 Optimized Score = 78 Significance = 0.00
Residue Identity = 19% Matches = 113 Mismatches = 341
Gaps = 131 Conservative Substitutions = 0

```

```

GLNSMDQIQNGSSSTPYNTDHAQNSTVAPSPYAPQSTFDALSPSPALPSNTDYGPHSFVSSFOQSST
80      90      100      110      120      130      140      150
20      30      40      50      60      70      80      90
EKGA-----HPSGADVAKKPPAPQPPPPAPHPQOHQHPQQA---KCKGHRGGCGGCGKSSSS
|||||
ASASATVYSTEKLKLYCQIAKTCPTQIKMTPTP-----QCAVIRAMPVYKKAEHYTEVVKRCPNHEL
150      160      170      180      190      200      210      220
90      100      110      120      130      140      150      160
SSASAAAASASASASASASASASASASASASASASASASASASASASASASASASASASASASASAS
|||||
SKEFNEGQIAPPS-----HLIR--VEGNSHQYVEDPITGRQSVLVPYPPQVGETTTLVLYNFCNNSSC
220      230      240      250      260      270      280      290
150      160      170      180      190      200      210      220
ODFSRQRELT-----GQGLQGVVEKQVSLQATFGTFESILRSSQHKQ---DLTEKAKQGESVYSRS
|||||
VGANRRPLILVITLFTDGOVL-GRCEPARICACPRDRKADSDSIRKQOVSDST---KNG-----DG
280      290      300      310      320      330      340      350

```

```

210      220      230      240      250      260
EVLQKINMLKLSQGI--HYVKARERDFTSLNTYERLT--ELTK-----STNDINAIPT-EVOK
|||||
TKAPPRQN-----THGIQNTSFKRRSPDDELILYPVGRETYEMLIKESLEMQYLPOHTLETYQOQ
340      350      360      370      380      390      400
270      280      290      300      310      320
RSQKEINDMAKVASLESEGN-KODLKALKEAVKEIQTSAKSRBEMDMALST--LQTMESDIYREVELV
|||||
QQGHQLQQTQTSIQSPSSSGSSPPLKNKSNKLPYSQILNPOKRALFTTTPDGKANI-----
410      420      430      440      450      460
330      340      350      360      370      380      390      400
SLKQEQQAFKPADTERLT-ALQALTEKLRSSESVGRLPPEIRLRLEERLQKSDSGPRDGFHSEAFE
|||||
--PMMGTHPMAGDNNGLSPTQALPPPL--SWPSTS-----HCTPPPTPTDGSYSLFARIGCSSCLDYF-
470      480      490      500      510      520      530      540
ALQOKSGDLSRLQHVDDVLSM-QVASARQTE-----SLESLSKSQHEORLAPAGALBESSEADQDG
|||||
-----TTQGLTTIYQ---IEHYSMDDLASLKIPQFRHAIWKGLDHRQJLH-FSSPSHLRTSPS-----
530      540      550      560      570      580      590      600
470      480      490      500      510      520      530      540
LASTV-RSLGETQVLVYGD-VEELKRSVGLPSTVSELOKQVOYHTLLSDQAOAARLPQDFLRLSLSD
|||||
-ASTVSGSSEETGERVIDAVRFTLQOTISFPRDPMDFNFDMDARRKQQRIRIEGE
590      600      610      620      630      640
540      550      560      570      580      590      600
NKAASVQVEADLKMLRTAVDSLVAYSVKIETNENNL

```

## 10. s33377 (1-601)

US-09-538-106-19 Sequence 19, Application US/09538106

```

Sequence 19, Application US/09538106
GENERAL INFORMATION:
APPLICANT: MCKEON, FRANK
APPLICANT: YANG, ANNIE
APPLICANT: LODA, MASSIMO
APPLICANT: SIGNORETTI, SABINA
APPLICANT: CRUM, CHRISTOPHER
TITLE OF INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES
FILE REFERENCE: HMV-038.02
CURRENT APPLICATION NUMBER: US/09/538.106
CURRENT FILING DATE: 2000-03-29
PRIOR APPLICATION NUMBER: 09/174.493
PRIOR FILING DATE: 1998-10-15
PRIOR APPLICATION NUMBER: 60/087.216
PRIOR FILING DATE: 1998-05-29
PRIOR APPLICATION NUMBER: 60/062.076
PRIOR FILING DATE: 1997-10-15
NUMBER OF SEQ ID NOS: 53
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 19
LENGTH: 680
TYPE: PRT
ORGANISM: Murine sp.

```

```

Initial Score = 6 Optimized Score = 79 Significance = 0.00
Residue Identity = 19% Matches = 113 Mismatches = 339
Gaps = 122 Conservative Substitutions = 0

```

```

GLNSMDQIQNGSSSTPYNTDHAQNSTVAPSPYAPQSTFDALSPSPALPSNTDYGPHSFVSSFOQSST
120      130      140      150      160      170      180
X
MPS--AKORSGKGGHGAAPS

```

20  
 EXGA-----HPSGGADVAKKPPAPQPPPPAPHPOOHPOOHQONQ-----HGKGGHGGGGGGSSSS  
 AKSAITWTSTELTKLYCOIAKTCPIQIKWTTPP-----QAVIRAMPYKKAHEVTEVAKCPNHET  
 190 200 210 220 230 240  
 90 100 110 120 130 140  
 SSASAAAAAASSSSCSRRLGRALNLFYLAALVAAAAPSGWCWHVLEVOQV-----RSH  
 SRFNNGQILPSS-----HLIR--VEGNSHAQYEDDITGROSVLVVEEPPQVTEPTTVLYNFMCSNC  
 250 260 270 280 290 300 310  
 150 160 170 180 190 200  
 QDFSRQREEL-----GGGQGVQKQVQSIQATFTGFEESIRSSQKODITEKAVAQSESVRSLEVL  
 VGMNRPRILITLTETROQVL--GRCEPARICACPGDRADEDSIRKQVSDSA--KNG-----DGTKR  
 320 330 340 350 360 370  
 210 220 230 240 250 260  
 OKLONILKDLSDGI--HYVKARERDFTSLENTVEERLT--ELTK-----SINDIAIFT--EVQKRSQ  
 PRON-----THGIQMTSIRKRRSPDDLLIIPVGRRETYEMLKIKESLELMOYLPOHTIETRYROQOQOQ  
 380 390 400 410 420 430 440  
 270 280 290 300 310 320 330  
 KEINDKAKAVASLESEGN--KODIKALKAEVKEIQTSAKSRMDMEALRSTLQTMESDIYTERELVLRKQE  
 HGHLOKOTSMOSQSSVGNSSPPLNKMNSMMLPVSQILNPOQRNAL--TETTM-----DEGKANIPIWM  
 450 460 470 480 490 500  
 340 350 360 370 380 390 400  
 OQAFKKAADTERL--ALQALTEKLRSEESVRLPEIRLEBELQLKJSDSPREDEGFRHSEAFELQOK  
 GTHMPVAGMNGISPTQALPPPL--SMFSTS-----HCTPPPPYPTDCSIVSFLARLGSSGLDYF-----T  
 510 520 530 540 550 560  
 410 420 430 440 450 460  
 SOGLSRLQHEVEGVLSM--QVASAQTESLESLSK-----SQHEQKLAAPGA--LEGLGSSSEAD  
 TOGLFTIYQ---IEHYSMDLASIKIPEQFRHAIWKILDHROLDHDFSPHLLT--TBGASATVSSSEIR  
 570 580 590 600 610 620 630  
 470 480 490 500 X 520 530  
 ODGLASTVA--SIGETQVLVYGVVEELKRSVGLPSTVESLQKVOEQVHTLLSQDOQAARLPPOQFLRLSS  
 GERVIDAVRFTLRQITSPPRD--EWNDFNFMDSRNRKQRIKEGE  
 640 650 660 670 680  
 540 550 560  
 LDNLKASVSQVEADLKMRLTAVDSLJ

11. s33377 (1-601)  
 US-09-538-106-14 Sequence 14, Application US/09538106

Sequence 14, Application US/09538106  
 GENERAL INFORMATION:  
 APPLICANT: MCKEON, FRANK  
 APPLICANT: YANG, ANNIE  
 APPLICANT: LODA, MASSIMO  
 APPLICANT: SIGNORETTI, SABINA  
 APPLICANT: CRUM, CHRISTOPHER  
 TITLE OR INVENTION: CELL REGULATORY GENES, ENCODED PRODUCTS, AND USES  
 FILE REFERENCE: HMV-038.02  
 CURRENT FILING DATE: 2000-03-29  
 PRIOR APPLICATION NUMBER: US/09/538,106  
 PRIOR FILING DATE: 1998-10-15  
 PRIOR APPLICATION NUMBER: 60/087,216  
 PRIOR FILING DATE: 1998-05-29  
 PRIOR APPLICATION NUMBER: 60/062,076  
 PRIOR FILING DATE: 1997-10-15

NUMBER OF SEQ ID NOS: 53  
 SOFTWARE: PatentIn Ver. 2.1  
 SEQ ID NO 14  
 LENGTH: 516  
 TYPE: PRT  
 ORGANISM: Homo sapiens

Initial Score = 5 Optimized Score = 75 Significance = -1.39  
 Residue Identity = 18% Matches = 105 Mismatches = 336  
 Gaps = 127 Conservative Substitutions = 0

X  
 MPEAKQ-----RSGKGGHGAASPSSEKA---HPSGGADVAKKPPAPQPP  
 10 X 20 30 40 50 60 70  
 MSQGTQNEFLSPFVPHINDFLEQPICSVQPIDLNFVDEPSESDGATNKIEIMDCIRMODSLSDPMPQY  
 10 X 20 30 40 50 60 70  
 50 60 70 80 90 100 110  
 PPAPHPOOHPOOHQONAHGKGGHGGGGGGSSSS--SSASAAAAAASSSASCSRRLGRALNLFYLA  
 TNIGLNSMDQO--IQN-----GSSSTSPTNTDHAQNSVTAPSPYADPS--STPDAL--SPSPA  
 80 90 100 110 120  
 120 130 140 150 160 170 180  
 LVAAAASGNCVHNVLEVOQVRRSHODFSRQREBELGQGLQGVQVSLQATFTG---FESILRSSQK-  
 IPSNTDYPG--PHFQVDSFOQSSSTAKSATWTYSTEL--KLLYCOIAKTCPIQIKWTTPPOGAVIRAMPYKK  
 130 140 150 160 170 180 190  
 190 200 210 220 230 240 250  
 -QDLTEKAVAQSESVRSIEVLOKUNEL-----KOLSDGIHYVKARE-----RDT--SIEN  
 AEHYTEVAKCEPHNEHSREFNEQIAPPSHLIRVEGNSHAQYEDDITGROSVLVVEEPPQVTEPTTVLYN  
 200 210 220 230 240 250 260  
 240 250 260 270 280 290 300  
 -----TVERRLTELTSINDNIAITFEVOKRQKEINMKAVASLESSENGKQDLKALKEVKEIQTSK  
 FMCSSCVGMNRPRILITLTETROQVIGRCEF-----ARICAPG--RURKA--DEDSIRKQVSD  
 270 280 290 300 310 320  
 310 320 330 340 350 360  
 SRBWDMALSTLOTJMESDIYTERELVLSLKQQAQFKKADTERLAL---QALTEKLRSEESVRLPEE  
 STKXGDTKXPPRO-----NTGICQMTSIRKRRSPDDLLIIPVGRRETYEMLKIKESLELMOYL  
 330 340 350 360 370 380  
 370 380 390 400 410 420  
 IRLLEELRLQKSDSHGPKKEDGFRHSEAFELQO--KSQGLDS-----RQHVEDGVLSWQVASAR  
 POHTIETRYROQOQOQH-----QHLLQKQTSIQSPSSYGNSSPPLNKMNSMMLPVSQILNPOQRNALT  
 390 400 410 420 430 440 450  
 430 440 450 460 470 480 490 500  
 QTESLESLSKQSEHQEQRILAPALGALGSSSEADQDGLASTYRSLSGETQVLVYGVVEELKRSVGLPSTVES  
 PTTIPDMGANNIMGTHMFMADNMNGLSPTQALPPPL--SMFSTSCTPPPY-----PTDCSIVRI  
 460 470 480 490 500 510  
 X 510 520 530 540 550  
 LQKQVEQVHTLLSQDOQAARLPPOQFLRLRLSSINDMKASVSQVEADLKMRLT  
 WQV  
 X

12. s33377 (1-601)  
 US-09-538-106-20 Sequence 20, Application US/09538106

Sequence 20, Application US/09538106  
 GENERAL INFORMATION:  
 APPLICANT: MCKEON, FRANK



